FINDING OF NO SIGNIFICANT IMPACT

Yavapai Observation Station
Grand Canyon National Park

Grand Canyon National Park proposes to rehabilitate both the interior and exterior of Yavapai Observation Station. Yavapai Observation Station was originally built in 1928 for the purpose of observing and understanding the geology of the Grand Canyon. It is one of the earliest park museums and is of national significance in National Park Service (NPS) architecture and interpretation. The approximately 3,000 square foot (SF) building is included on the NPS List of Classified Structures and was listed on the National Register of Historic Places in 1990. The building is considered eligible for listing as a National Historic Landmark.

The proposed project is needed to address the following management concerns:

- The building does not have a fire detection or sprinkler system and is not in full compliance with accessibility standards or building codes.
- The building exterior, including log viga ends, roof, native stone masonry, trim and woodwork is deteriorated and in need of repair. Unnecessary equipment on the roof and obsolete exterior utilities detract from the building's historic character, and need to be removed when possible.
- The building interior, including paint, flooring, windows and doors, is in need of repair.
- The existing heating and cooling systems are inadequate. Temporary solutions for cooling the building have been implemented, but a permanent solution is necessary.
- The functions for Yavapai Observation Station as identified in the 1995 GMP are not being met. The facility is primarily used a bookstore with only limited interpretive exhibits.
- Small access barrier (uneven surfaces and paving irregularities) around the exterior of the building needs to be eliminated.

Objectives of the Action

1) Implement direction outlined in the 1995 GMP for Yavapai Observation Station to function as a museum/interpretive facility, focusing on geology, physiography and related themes.
2) Comply with the most recent accessibility guidelines when rehabilitating the building.
3) Comply with the most recent building codes, fire codes and life safety standards when rehabilitating the building.
4) Preserve the historic features and character-defining spaces and elements, while improving the functionality and safety of the building for current uses. Modifications to the building will be done in a manner that will minimize negative physical and visual effects to the cultural resource.

In June 2003 the National Park Service (NPS) prepared an *Environmental Assessment for the Yavapai Observation Station Rehabilitation.* This EA, in accordance with the National Environmental Policy Act, analyzes the impacts that will likely result from implementation of the project. The environmental assessment evaluated two alternatives, Alternative A, the No Action Alternative and Alternative B, the agency's preferred alternative.

PREFERRED ALTERNATIVE

The preferred alternative will fully rehabilitate both the interior and exterior of Yavapai Observation Station, in full compliance with Director's Order 28 (Cultural Resources Management Guideline) and the Secretary of the Interior's Standards for the Treatment of Historic Properties (Weeks and Grimmer 1995). Specific project components are as listed below.

Implementation Phasing

There are two phases to the implementation of the preferred alternative for this project. Phase I includes all interior and exterior rehabilitation actions and installation of new exhibits, as described in detail below. Phase II includes the eventual removal of the observation deck windows. The implementation of Phase II will not occur right away and is contingent on several parameters being met.

PHASE I

Exterior Rehabilitation

- Replacement of roofing and installation of new roof flashing, drains and scuppers.
- Selective repointing of stone masonry.
- Existing log vigas and beams will be reinforced in selected locations. The existing vigas on the north side of the building will be extended by approximately 12 inches to help restore the original look of the building.
- Repainting of all exterior wood elements.
- Repair of historic exterior south and southeast entrance doors (repainting, rehabilitate or replace hardware, weatherstripping).
- Removal of non-historic east and west entrance doors and replacement with a rustic plank design similar to those at the south and southeast entrance doors.
- Re-grading and repaving of asphalt paths surrounding the building to meet accessibility requirements.
- Replacement of exterior lighting with low light, night sky conforming fixtures.
- Replacement of existing signage, as needed.
- Removal of unnecessary equipment and accessories on the roof and on the sides of building, where appropriate. A possible location for some of this equipment may be the north side of the building, below or near the catwalk.
- Replacement of the fall suppression system on the north side of the building. There is an existing system in place that is used periodically by NPS personnel who clean the observation deck windows. They hook into a system to prevent falling. This system will need to be re-installed or replaced to meet occupational and safety and health (OSHA) requirements.
- Connect underground utility systems (water, electrical, communication, lines to air quality transmissometer) with new supply lines for improvements in the building.
- Place communication lines underground where possible.

Interior Rehabilitation

- Removal of cement plaster finish from parapet wall on the observation deck and rehabilitation of original stone finishes.
- Removal of existing carpet and restoration of original scored concrete flooring.
- Removal of existing sales desk, shelving and displays.
- Reconfiguration of office and storage areas to accommodate sprinkler system, electrical system and storage needs. Removal of the sink in the office area.

- Paint interior plaster and wood finishes.
- Replacement of light fixtures in their same location with modern fixtures, compatible with historic interior and conducive to exhibit design.
- Removal of abandoned ducts and vents and installation of a new mechanical equipment system. The heating/cooling system will be a roof-mounted split system with fan coils within the interior spaces attached to the existing soffits and interior walls. Some radiant heaters will be retained. Exhaust fans will use existing roof penetrations. Removal of the airlock glazing between the entry vestibule and the observation deck.
- Installation of a fire detection and sprinkler system. Sprinkler piping will be exposed.
- Upgrading of structural system and electrical systems to meet current building codes.

Installation of New Exhibits

An interpretive plan has been developed and focuses on providing a learning experience that facilitates a connection between the visitor and the unique geologic resource of Grand Canyon. Exhibits will provide a multi-sensory visitor experience, utilizing graphic panels, ceiling-mounted lighting, text panels, simple and complex displays of interpretive objects, small dioramas, models and a variety of simple interactive exhibits. Exhibits will focus on the roofed terrace and the exhibition hall, functions for interpretation similar to that used in 1928. The design of the exhibits will be in keeping with the Secretary of the Interior's Standards for the Treatment of Historic Properties and will be distinctive yet compatible with the historic building.

The exhibits are being designed so that they will be functional following implementation of both Phase I and Phase II of the rehabilitation, as described below. Some minor relocating of exhibits may be necessary following the installation of an interior glass wall under Phase II.

Construction Staging

The staging area will be located on the entrance path to the building, and will encompass at least 10 parking spaces in the parking lot. This area will be fenced if necessary. Workers will also use the dirt parking area to the west of the main entrance road for storing materials and vehicles.

Vegetation Management

Several small shrubs will be removed as part of the rehabilitation effort in order to connect a new waterline with the existing underground system and a small pinyon pine tree [less than seven inches diameter at breast height (DBH)] will be removed on the north side of the building to maintain the view of the canyon from the east vestibule. Removal of other trees and shrubs may be necessary in the future to maintain views of the canyon and to manage vegetation around the building. Vegetation removal and/or pruning necessary for the current rehabilitation effort and for any future periodic maintenance will adhere to the Park's tree pruning guidelines with the goal of retaining the health and integrity of the trees and shrubs treated while also accomplishing the intent for improving views or other aesthetic goals. This minor short- and long-term vegetation management will be conducted in consultation with appropriate Park vegetation specialists, as described in the Mitigation Measures section of this Chapter.

PHASE II

Glazing on the Observation Deck

The second phase of implementation will include the complete removal of the observation deck windows, to restore the original open-air terrace, and installation of a fixed glazed wall at the south column line with an operable pair of doors. Implementation of this action will be contingent upon the following parameter being met:

Visitation levels to Yavapai Observation Station drop to approximately 2,500 people

daily when a mass transit system is in place, tour buses no longer have direct access, and/or the planned interpretive facility in the historic powerhouse area of Grand Canyon Village is functioning.

This phased approach is proposed due to concerns that immediate implementation of the second phase will likely result in circulation problems for visitors during current peak seasons by significantly reducing the interior space in the building. This second phase will be feasible, however, and desirable, when peak visitation levels drop significantly, which is anticipated following mass transit implementation.

Mitigation measures developed for this project (see below, pages 4-8) will apply to implementation of Phase II, as appropriate. Construction staging for the short time necessary for implementation of Phase II will be as described above under Phase I. Vegetation management actions may also be necessary during implementation of Phase II and will follow guidelines described above under Phase I and all applicable mitigation measures.

Implementation of Phase I will include actions that do not preclude implementation of Phase II, and will prepare the building for the eventual implementation of Phase II (i.e. installing a floor drain in the observation deck while the floor is being repaired, or installing a heating system for the building that could be shut off in the observation deck).

Mitigation Measures
The mitigation measures listed below are considered part of the preferred alternative and will be followed during project implementation. These actions were developed to lessen the potential for adverse impacts from implementing the preferred alternative, and have proven to be effective in reducing environmental impacts on previous projects.

Contractor Orientation. Contractors working in the Park are given orientation concerning proper conduct of operations. This orientation is provided in both written form and verbally at a preconstruction meeting. This policy will continue on this project. Orientation topics will include:

- Wildlife should not be approached or fed.
- Collecting any Park resources, including plants, animals, and historic or prehistoric materials, is prohibited.
- Contractor must have a safety policy in place and follow it.
- A vehicle fuel leakage and spill plan will be developed and implemented for this project.
- Other environmental concerns and requirements discussed elsewhere in the EA and FONSI will be addressed, including relevant mitigation measures listed below.

Limitation of Area Affected. The following mitigation measures will be implemented to minimize the area affected by construction activities.

- The staging area for the construction office (a trailer), construction equipment, and material storage will be located in previously disturbed areas near the project site. All staging areas will be returned to pre-construction conditions once construction is complete. Standards for this, and methods for determining when the standards are met, will be developed in consultation with the Park Vegetation Program Manager.
- Construction zones will be fenced with construction tape, green snow fencing, or some similar material before any construction activity. The fencing will define the construction zone and confine activity to the minimum area required for construction. All protection

measures will be clearly stated in the construction specifications, and workers will be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

Soil Erosion. To minimize soil erosion, the following mitigation measures will be incorporated into the project.

- Standard erosion control measures such as silt fences, sand bags, or equivalent control methods will be used to minimize any potential soil erosion.

Vegetation Management. To minimize impacts to vegetation, the following mitigation measures will be incorporated into the project.

- Vegetation removal and/or pruning necessary for this project and for any future periodic maintenance adjacent to the building will adhere to the Park's tree pruning guidelines with the goal of retaining the health and integrity of the trees and shrubs treated, while also accomplishing the intent to improve views or achieve other aesthetic goals.
- Vegetation removal or pruning would be conducted in consultation with appropriate Park vegetation specialists to ensure impacts are minimized.

Exotic Vegetation and Noxious Weeds. To prevent the introduction of and minimize the spread of exotic vegetation and noxious weeds, the following mitigation measures will be incorporated into the project.

- Existing populations of exotic vegetation at the construction site will be treated prior to construction activities.
- All construction equipment that will leave the road (e.g., bulldozers and backhoes) will be pressure washed prior to entering the Park.
- The location of the staging area for construction equipment will be Park-approved and treated for exotic vegetation.
- Parking of vehicles will be limited to existing roads or the staging area.
- Any fill, rock, or additional topsoil needed will be obtained from a Park-approved source.
- All areas disturbed by construction will be revegetated using site-adapted native seed and/or plants.

Water Quality. To minimize potential impacts to water quality, the following mitigation measures will be incorporated into the project.

- Standard erosion control measures such as silt fences, sand bags, or equivalent control methods will be used to minimize any potential sediment delivery to streams.

Special Status Species. To protect any unknown or undiscovered threatened, endangered, or special status species, the construction contract will include provisions for the discovery of such. These provisions will require the cessation of construction activities until Park staff evaluates the project impact on the discovery and will allow modification of the contract for any protection measures determined necessary to protect the discovery. Mitigation measures for known special status species are as follows:

California Condor

- Prior to the start of this construction project, the Park will contact personnel monitoring California condor locations and movement within the Park to determine the locations and status of condors in or near the project area.
- If a condor occurs at the construction site, construction will cease until it leaves on its own or until permitted personnel employ techniques that result in the individual condor leaving the area.
- Construction workers and supervisors will be instructed to avoid interaction with condors and to contact the appropriate Park or Peregrine Fund personnel immediately if and when condor(s) occur at a construction site.
- The construction site will be cleaned up at the end of each day that work is being conducted (i.e., trash disposed of, scrap materials picked up) to minimize the likelihood of condors visiting the site. Park condor staff will complete a site visit to the area to ensure adequate clean-up measures are taken.
- To prevent water contamination and potential poisoning of condors, a vehicle fluid- leakage and spill plan will be developed and implemented for this project. This plan will be reviewed by the Park biologist for adequacy in addressing condors.
- If a new structure occurs on the rim or above tree line in other areas, there may be a need to install condor deterrent devices on the structure. This will be evaluated on a case-by-case basis by the Park wildlife biologist.
- If non-nesting condors occur within 1 mile of the project area, blasting will be postponed until condors leave or are hazed by permitted personnel.
- If condor nesting activity is known within 1 mile of the project area, then blasting activity will be restricted during the active nesting season, if viable nests persist. The active nesting season is February 1 to October 15, or until young are fully fledged. These dates may be modified based on the most current information, in consultation with the Park biologist and the USFWS.
- Prior to the implementation of Phase II of this project (removal of the observation deck windows), the Park Biologist will be consulted to determine if any additional mitigation measures for condors will be necessary. These might include affixing nixalite as a deterrent to roosting or perching on or near the observation deck and stationing a seasonal wildlife technician in the building for condor hazing, as needed.
- If condor nesting activity is known within 0.5 mile of the project area, then light and heavy construction in the project area will be restricted during the active nesting season, if viable nests persist. The active nesting season is February 1 to October 15, or until young are fully fledged. These dates may be modified based on the most current information, in consultation with the Park biologist and the USFWS.

Mexican Spotted Owl (MSO)

- There are no known MSO protected activity centers (PAC) within 0.5 miles of the project area. All MSO habitat within this area has been surveyed and no MSO have been found. Blasting is not a component of this project. This project was included in a Biological Assessment that evaluated the impacts of multiple construction projects in the park on federally listed species (June 2002). FWS concurred with the park's determinations of effect to MSO (July 2002). All pertinent conservation measures for MSO have been reviewed for applicability to this project. Due to the distance to the nearest known MSO PAC and the fact that surveys are up-to-date, mitigation measures for MSO are not currently necessary for this project. These mitigation measures will again be reviewed prior to project implementation to

confirm applicability to the project based on the most recent MSO survey and monitoring information.

Cultural Resources. To minimize the impacts of construction activities on cultural resources, the following mitigation measures will be incorporated into the action alternative.

- If previously unknown archeological resources are discovered during the course of the project, a park archeologist will be contacted immediately. All work in the immediate vicinity of the discovery will be halted until the resources can be identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with the stipulations of the 1995 Programmatic Agreement among the National Park Service, the Arizona State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the General Management Plan/Environmental Impact Statement, Grand Canyon National Park, Arizona.
- All workers will be informed of the penalties of illegally collecting artifacts or intentionally damaging any archeological or historic property. Workers will also be informed of the correct procedures if previously unknown resources are uncovered during construction activities.
- All undertakings affecting historic buildings and structures will be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (60 FR 35842-35844) and other applicable NPS cultural resources policies and guidelines.

Visitor Experience. The following mitigation measures will be incorporated into the project to minimize the impacts of construction activities on the visitor experience:

- Yavapai Observation Station will be closed to visitors during the construction period.
- Traffic in any one direction will not be stopped for more than 15 minutes to minimize disruption to traffic flow.
- Unless otherwise approved by the Park, operation of heavy construction equipment will be restricted to 8:00 am to 6:00 pm in the summer (May 1- September 30) and to 9:00 am to 5:00 pm during the rest of the year.
- Information regarding implementation of this project and other foreseeable future projects will be shared with the public upon their entry into the park during construction periods. This may take the form of an informational brochure or flyer about the projects distributed at the gate and sent to those with reservations at park facilities, postings on the park's website, press releases, and/or other methods. The purpose of these efforts will be to minimize the potential for negative impacts to the visitor experience on the South Rim during implementation of this project and other planned projects during the same construction season.
- Commercial operators will not be allowed to use the Yavapai Observation Station parking area or to drop off visitors during the construction period.

Air Quality. Air quality impacts from the project are expected to be temporary and localized. To minimize these impacts, the following actions will be taken:

- To reduce entrainment of fine particles from hauling material, sufficient freeboard will be maintained and loose material loads (aggregate, soils, etc.) will be tarped.
- To reduce tailpipe emissions, construction equipment will not be left idling any longer than is necessary for safety and mechanical reasons.

- To reduce construction dust in the short term, water will be applied to problem areas. Equipment will be limited to the fenced project area to minimize soil disturbance and consequent dust generation.
- Landscaping and revegetation will control long-term soil dust production. Mulch and the plants themselves will stabilize the soil and reduce wind speed/shear against the ground surface.

ALTERNATIVES CONSIDERED

The EA evaluated two alternatives in detail for addressing the purpose and need for action; the no action alternative and the preferred alternative. The preferred alternative is as described previously in this document in detail.

Alternative A – No Action Alternative: This alternative would not change the existing situation. Yavapai Observation Station would remain in its current condition. The building would continue to be out of compliance with current accessibility standards and building codes. Log vigas, roofing and stone masonry would still need repair. Exterior doors and windows would not be restored or repaired. Heating and cooling systems would continue to be inadequate and energy-consumptive. The building would continue to be without a fire detection and sprinkler system. Yavapai Observation Station would continue to function primarily as a bookstore/observatory and not as an interpretive facility.

The no action alternative does not meet the purpose and need for action, but provides a basis for comparing the management direction and environmental consequences of the action alternative. If the no action alternative were selected, NPS would respond to future needs related to this building without major actions or changes in course.

Alternatives Considered but Dismissed from Detailed Analysis

The EA also includes a discussion of several other alternatives considered but dismissed from detailed analysis. Three primary components of the rehabilitation were identified as having alternative treatment possibilities. These included the treatment of the glazing on the observation deck, reconstruction of the original center wall, and exhibit design, as described briefly below.

<u>Glazing on Observation Deck</u>

Two treatment options for how to address the existing glazing on the observation deck (retain existing mullioned fixed glazing and removal of the glazing entirely) are included in Alternative A and Alternative B. Three additional options for treatment of these windows were preliminarily identified. The first included providing glazing on the observation deck that was in some manner operable. This included mounting operable windows at the existing glazing location that could be opened and closed as the weather dictated or installing storm windows at the existing glazing location that could be reinstalled on a seasonal basis. This was eliminated from detailed analysis due to difficulty of construction, operability and increased maintenance.

A second option included removal of the existing windows and installation of a folding glazed wall at the north column line. This concept was proposed initially and evaluated by the interdisciplinary team. A folding glazed wall option was subsequently rejected due to the problems with circulation this would create with a wall at the north column line. This alternative was then modified to include an operable wall (not folding, but sliding) at the south column line. An operable wall at the south column line is included in Alternative B, Phase II.

A third option included installation of butt jointed glazing. This preliminary alternative included the

removal of the existing observation deck glazing, frames and mullions (solid vertical elements separating the existing windows) on the observation deck and replacement with butt jointed glazing. This glazing would not have had solid pillars where the pieces of glass join together. The existing space between the observation deck and the exhibit room would have remained intact. This alternative would have provided for a continuous view of the canyon, no longer interrupted by mullions, thus more closely matching the original open view provided at this building. This alternative was carried forward into later design phases where it was determined not to be structurally sound. Due to the existing roof overhang and the amount of potential snow load, the Park Historical Architect and design consultants determined that butt jointed glazing, without other structural supports, would not be able to withstand the expected fluctuation in roof deflection during heavy snowloads. While installation of other structural supports for the roof (narrow vertical steel pipes) could be installed with the butt jointed glazing and was preliminarily considered, park management determined that this would not meet the overall intent of the replacement of the existing windows in the first place, which was to restore a more unobstructed view of the canyon. For these reasons, installation of butt jointed glazing was ultimately determined not to be feasible and was dismissed from further analysis.

Center Wall

Once feasible options for the glazing on the observation deck were determined, the interdisciplinary team determined whether rebuilding the original center wall was possible. From a functional point of view, rebuilding a solid center wall would not work for interpretive purposes and NPS staff felt that constricted circulation space for visitors would result. For this reason, rebuilding the solid center wall was eliminated from further analysis.

Exhibits

An interpretive plan has been developed for this project and will focus on providing a learning experience that facilitates a connection between the visitor and the unique geologic resource of Grand Canyon. Three levels of exhibit quality and complexity were initially explored to meet the goals of this interpretive plan. The exhibit plan that received the highest overall score during the Choosing By Advantages (CBA) process was one that included interactive exhibits with objects, panels and text. These styles of exhibits would provide a higher level of engagement, would accommodate more learning styles and sensory experiences and would promote resource stewardship through enhanced opportunities for repetition, reinforcement and analogy. This exhibit plan is part of Alternative B. Two other preliminary exhibit plans were eliminated from further analysis because they did not provide a high level of engagement and did not accommodate different learning styles.

Some additional project components also necessitated alternative treatment comparisons during the development of this project. These included treatment of entry doors and selection of a mechanical system.

Entry Doors

The interdisciplinary team, designers, various NPS staff and SHPO discussed options for the treatment of the existing exterior doors to the east and west entrances. The original construction of these entrances was of solid wood plank construction. The south exterior door is believed to be the original door of this type of construction. In contrast, the original construction drawings show glazed French doors with sidelights. The present construction of the east and west doors was done in 1977-1978 and is not historic. Options for treatment of these doors, since they are in need of repair and are not historic, were evaluated. One option considered was to replace these solid wood doors with modern, butt-glazed doors and sidelites, to mimic the original intent of the construction drawings and to create a more open and inviting entry. This option was dismissed from further analysis due to the clear evidence that the original doors were solid wood and the desire to keep the building configured as it was originally constructed.

Mechanical Systems

Options for cooling the building included an evaluation of increasing natural ventilation through relief air fans in the ceiling and operable windows. Upon further investigation into building temperatures during the summer months and the only minimal success of the temporary air conditioning units installed in the building, a cooling system is warranted. A natural ventilation system with operable windows was eliminated as an alternative because it did not meet the cooling needs of the building.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Using selection factors from the Choosing by Advantages process and through the process of internal scoping, scoping with the public and other agencies, the environmentally preferred alternative selected is Alternative B. Alternative B best meets the purpose and need for action and best addresses the overall Park Service objectives and evaluation factors.

Alternative A (No Action) would not address inadequacies of the existing building and would not contribute to the preservation of existing historic structures. Therefore, Alternative A would not fulfill criterion 2 and 4. Alternative B would fulfill criterion 2 and 4 by addressing current inadequacies of the building and rehabilitating a National Historic Landmark-eligible building. No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Alternative B is recommended as the preferred alternative and meets both the purpose and need for action and project objectives.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. As fully discussed in the EA, the preferred alternative will not affect soils and water, vegetation, general wildlife populations or species of interest, the federally listed Mexican spotted owl, air quality, soundscape, floodplains and wetlands, archeological resources, ethnographic resources, cultural landscapes or museum collections, environmental justice, prime and unique farmland, or the socioeconomic environment.

Implementation of the preferred alternative will result in minor, adverse short-term impacts to the American peregrine falcon during construction. Implementation of the preferred alternative may affect individual peregrine falcons, but will not result in a trend toward federal listing or a loss of population viability. Concurrence on this determination was received from the U.S. Fish and Wildlife Service on 9 July 2002, as part of a batch consultation on multiple construction projects in the park.

Implementation of the preferred alternative will result in minor, adverse short- and long-term impacts to California condor. For purposes of Section 7 consultation under the Endangered Species Act, implementation of the preferred alternative may affect, but is not likely to adversely affect, the California condor. Concurrence on this determination was received from the U.S. Fish and Wildlife Service on 9 July 2002, as part of a batch consultation on multiple construction projects in the park.

Implementation of the preferred alternative will result in moderate, adverse short-term impacts to visitor experience during construction when the building will be closed. These short-term impacts will be outweighed by the long-term moderate beneficial impacts of rehabilitation of this prominent historic building.

Implementation of the preferred alternative will result in minor, adverse short-term impacts to park operations during construction. Moderate long-term beneficial impacts will result from building improvements and enhanced interpretive program. Negligible to minor adverse long-term impacts to park operations will result from eventual removal of observation deck glazing and the potential for increased maintenance needs.

Full documentation of the assessment of actions having an affect on cultural resources, the Assessment of Effects form (AEF), has been prepared separately for this project (NPS 2003), to facilitate consultation with the SHPO. After applying the Advisory Council on Historic Preservation's criteria for adverse effects (36 CFR, Part 800.5, Assessment of Adverse Effects), the National Park Service determines that implementation of the Yavapai Observation Station rehabilitation will have no adverse effect on identified historic properties. Concurrence on this determination from the State Historic Preservation Office was received on 8 September 2003.

Degree of effect on public health or safety. Adherence to mitigation measures designed to minimize safety risks and adverse impacts to visitors during the construction period will address these limited risks to public safety. Moderate, beneficial, long-term impacts to visitors are expected due to rehabilitation of a building to meet current building codes and accessibility standards and make improvements in the walkways surrounding the building.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. As fully discussed in the EA, the preferred alternative will not affect soils and water, vegetation, general wildlife populations or species of interest, the federally listed Mexican spotted owl, air quality, soundscape, floodplains and wetlands, archeological resources, ethnographic resources, cultural landscapes or museum collections, environmental justice, prime and unique farmland, or the socioeconomic environment. No wild and scenic rivers are designated near the project area and none will be affected by implementation of the preferred alternative. No ecologically critical areas occur within the project area and only minimal disturbance to the surrounding vegetation will occur.

Rehabilitation of the National Register-listed Yavapai Observation Station in accordance with Director's Order 28 (Cultural Resources Management Guideline), the Secretary of the Interior's Standards for the Treatment of Historic Properties (Weeks and Kay 1995) and the recommendations made in the Historic

Structures Report (HSR) will result in a direct moderate beneficial long-term impact to the building by restoring historic finishes, repairing historic structural components, and installing a fire protection system. Creating a more functional space to accommodate current and future use as an interpretive facility is in keeping with the Secretary's Standards for rehabilitation. Bringing the building up to current accessibility, safety and building codes is also expected to result in improvement in the functionality and safety of the building, allowing for continued use by park staff and visitors. All of the proposed rehabilitation efforts are designed to preserve the historic features and elements of the building and maintain character-defining features.

The National Park Service, documented in the AEF for this project and summarized in the EA, determines that implementation of the preferred alternative will result in a "no adverse effect to historic properties" determination. Concurrence on this determination from the State Historic Preservation Office was received on 8 September 2003.

Consultation with concerned tribal officials, Arizona State Historic Preservation Officer, and U. S. Fish and Wildlife Service has been completed.

Degree to which effects on the quality of the human environment are likely to be highly controversial. There were no highly controversial effects identified during either preparation of the EA or the public review period.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks. There were no highly uncertain, unique or unknown risks identified in the EA or during the public review period.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The preferred alternative neither establishes a precedent for future actions with significant effect nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Impacts of the preferred alternative identified in the EA were to special status species, historic resources, visitor experience and park operations. As described in the EA, a variety of past, present, and reasonably foreseeable future actions have affected or may affect resources in the area. Implementation of the preferred alternative in combination with past, present and reasonably foreseeable future actions will result in impacts to resources that range from negligible to moderate.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. Yavapai Observation Station was listed on the National Register in 1990 and is eligible for listing as a National Historic Landmark. The building is a sensitive cultural resource and has been carefully considered throughout the planning process for this project, as documented in the EA and the AEF for this project. On 8 September 2003, The State Historic Preservation Office concurred with the Park's determination that rehabilitation of Yavapai Observation Station will not adversely impact historic properties.

The project area has had previous archeological survey and the potential for impacts to archeological sites is negligible. Consultation with concerned tribal officials has been completed.

If previously unknown archeological resources are discovered during construction, all work in the immediate vicinity of the discovery will be halted until the resources are identified and documented. An

appropriate mitigation strategy, if necessary, will be developed in consultation with the Arizona State Historic Preservation Office and concerned tribal officials.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat. The California condor was listed as an endangered species in 1967. A nonessential, experimental population of California condors has been established in Northern Arizona, and within Grand Canyon National Park the condor has the full protection of a threatened species. It has been determined by park staff that implementation of the preferred alternative "may affect, but is not likely to adversely affect" the California condor. This determination is based on the potential that condors could be attracted to the increased activity at the project site during construction. Mitigation measures have been developed jointly between park staff and the U.S. Fish and Wildlife Service (FWS) to minimize the potential for adverse impacts to the condor during project implementation. These measures are included as part of the the preferred alternative. The FWS has been consulted and concurred with the determination that condors may be affected, but are not likely to be adversely affected by the implementation of the preferred alternative on 9 July 2002.

Whether the action threatens a violation of Federal, state or local environmental protection law. The preferred alternative violates no federal, state, or local environmental protection laws.

IMPAIRMENT OF PARK RESOURCES OR VALUES

In addition to determining the environmental consequences of the preferred and other alternatives, National Park Service policy (*Management Policies*, 2001) requires analysis of potential effects to determine whether or not actions will impair park resources. The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of the park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, will harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values. Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. An impact to any park resource or value may constitute impairment. An impact will be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

Because there will be no major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Canyon National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the

park's general management plan or other relevant National Park Service planning documents, there will be no impairment of Grand Canyon National Park's resources or values as a result of implementation of the preferred alternative.

PUBLIC INVOLVEMENT

The Yavapai Observation Station rehabilitation proposal was included in a public scoping letter that was submitted to a 300-person Grand Canyon National Park mailing list on 24 October 2001. This mailing list also included eight of the nine affiliated tribes who have expressed interest in projects on the South Rim. A press release was issued and the letter was posted on the park's website. The purpose of these scoping activities was to describe the proposed action to any interested/affected parties and solicit comments from those who may have issues with the proposed action. Four responses were received. These included a letter from the Navajo Nation Historic Preservation Department, The Zuni Heritage and Historic Preservation Office, the Hopi Tribe Cultural Preservation Office and a private individual. These responses either offered no specific comment on the proposal and thanked the park for keeping them informed, or were in support of the proposal as described. The Park Service performed a content analysis on this information, information gained from internal scoping, and information gained from scoping with other agencies. From this effort, the Park Service did not identify any additional significant issues for analysis.

The EA was made available for public review and comment during a 30-day period ending 21 July 2003 through a combination of direct mailing, issuance of a press release and posting on the park's website. Five responses were received. Four of the responses (Grand Canyon Memories, Kaibab Band of Pauite Indians, Sierra Club and a private individual) all expressed support for the preferred alternative. The Sierra Club response also questioned a statement in the EA regarding noise level impacts and offered some suggestions for implementation. The private individual expressed concern regarding the adequacy of contractor orientation and asked a question regarding the previous life-zone garden near the building. A response from the U.S. Fish and Wildlife Service (USFWS) posed questions to the park regarding the proximity of the project to Mexican spotted owl protected activity centers (PAC) and recent revisions to the PAC boundary. These MSO questions were answered by the Park's Wildlife Program Manager via a phone call with USFWS on 31 July 2003. Substantive comments are addressed in detail in the errata sheet attached to this document.

Consultation between the NPS and the State Historic Preservation Officer (SHPO) on this project is complete. Concurrence was received on 8 September 2003. SHPO was a key team member during the Value Analysis in June 2001. SHPO concurred with the park's preliminary determination that implementation of this project, as described in the preferred alternative, would result in a no adverse effect determination to historic resources on 12 December 2001. Additional discussions regarding this project occurred on 16 – 17 October 2002, 18 December 2002, 20 February 2003 and 22 May 2003.

CONCLUSION

The preferred alternative, which includes implementation of Phase I (full rehabilitation and exhibit installation) followed by the eventual implementation of Phase II (removal of the observation deck windows), does not constitute an action that normally requires preparation of an environmental impact statement (EIS). Negative environmental impacts that could occur are negligible to moderate in effect. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, known ethnographic resources, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

If the parameter required for implementation of Phase II does not occur (reduction in visitation levels to Yavapai Observation Station) and Phase I is implemented but Phase II is not, the effects to the human environment are not considered significant, as described in the EA and AEF for this project.

Based on the foregoing, it has been determined that the project does not constitute a major federal action significantly affecting the quality of the human environment and an EIS will not be required for this project and thus will not be prepared.

Recommended: _____ _____
Jeffrey Cross Date
Science Center Director, Grand Canyon National Park

Recommended: _____ _____
Joseph F. Alston Date
Superintendent, Grand Canyon National Park

Approved: _____ _____
Stephen P. Martin Date
Intermountain Regional Director

ERRATA SHEET

Yavapai Observation Station Rehabilitation
Grand Canyon National Park

The NPS received five letters in response to our request for comments on the EA for the Yavapai Observation Station Rehabilitation (June 2003). The comment period ended 21 July 2003. An interdisciplinary team reviewed these responses to identify any substantive comments. Substantive comments were considered to be comments which:

- question, with reasonable basis, the accuracy of information in the EA.
- question, with reasonable basis, the adequacy of environmental analysis.
- present reasonable alternatives other than those presented in the EA.
- cause changes or revisions in the proposal.

Some comments were received that were considered substantive. These comments were reviewed in detail by the project interdisciplinary team. Substantive comments received are summarized below with the NPS response.

Comment: **The life zone garden should be re-created as part of this project.**

Response: As stated in the EA on page 33, an extensive life zone garden of native wild plants was initiated on the grounds surrounding Yavapai Observation Station following initial construction in 1928. The rest of the area was landscaped with native plants to the South Rim. These plantings served an educational purpose and the gardens and paths became an integral part of the building's design and expression. The original life zone gardens included plants from the upper and lower Sonoran and Canadian zones present in Grand Canyon. These gardens no longer exist but some of the rock lined beds are still evident among the existing dense vegetation. The life zone gardens likely failed due to difficulty in establishing and maintaining these plants with limited staff and resources.

The scope of this project is limited to rehabilitation of the building itself and its immediate vicinity. Treatment of surrounding areas is not part of this current project and funding for this type of work is not currently available as part of this project. However, implementation of the rehabilitation of Yavapai Observation Station will not preclude future consideration of a proposal to recreate the life zone gardens. The feasibility of such an endeavor has yet to be determined.

Comment: **The EA contains a provision to minimize the impact of noise during construction. However, the statement (EA, page 9) that "After construction is completed, any noise level impacts would return to their natural condition" is not substantiated and most likely not true. While it might return to the pre-construction noise level, we doubt if it will return to a natural condition.**

Response: NPS agrees with this statement. The sixth paragraph on page 9 of the EA has been reworded to read as follows:

> *Rehabilitation activities would generate noise levels in the vicinity above the ambient conditions. Noise sources include vehicles, equipment and power tools. To protect the Park soundscape during project implementation, noise production must occur outside the curfew established for overflights, as listed in the mitigation measures developed for this project. Noise impacts from this project would only last the duration of the construction. After construction is completed, any noise level impacts would return to their pre-construction levels. All construction would occur during daylight hours when roads and the associated traffic already affect the project area. Any*

additional traffic would only be temporary and would negligibly affect the areas in the short-term. Since this project would have no measurable impacts on the long-term soundscape in the project area, soundscape was dismissed from further analysis.

Comment: **To improve the long-term noise level at the observation station, we suggest the following actions: 1) continue to enforce the policy that buses must turn off their engines as soon as they park, 2) place signs in the parking lot informing visitors that natural sounds are an important part of experiencing the park environment, and that it would be courteous to keep conversations at a low level, and 3) add a significant exhibit that helps visitors understand the importance of quiet and gives the visitor advice on how to experience natural sounds in the park.**

Response: Implementation of this project will not substantially alter the existing level of noise in this developed area of the South Rim. As stated in the EA on page 9 and in the mitigation measures on page 26, the short-term adverse impacts from the noise of construction equipment will be minimized by enforcing curfews on operation during early morning and evening hours, consistent with timing restrictions on aircraft overflights to protect natural quiet. Long-term adverse impacts to soundscape are not expected from implementation of this project. For this reason, mitigation measures to address soundscape, which are designed to minimize the potential for adverse impacts from a project action, are not necessary for implementation of this project.

However, NPS agrees that the suggestions made here are worthy of consideration as part of future planning efforts to mitigate existing noise impacts in the park. As stated in NPS Director's Order 47: Soundscape Preservation and Noise Management (NPS 2000), "An important part of the NPS mission is to preserve and/or restore the natural resources of the parks, including the natural soundscapes associated with units of the NPS system…." While NPS does not believe that signs telling visitors to keep conversations to a low level would be very effective, it does agree that interpretive media to inform visitors about the issue of soundscape and the protection of natural quiet in Grand Canyon National Park is an excellent idea. The exhibit planning team for Yavapai Observation Station is focusing on exhibits here that encourage a quiet, contemplative atmosphere and ones that focus specifically on geology. The future visitor center in the historic powerhouse area of the Park (formerly known as the Heritage Education Campus) would be an ideal location for visitor information on soundscape and natural quiet and the ways in which Grand Canyon National Park is addressing this challenging and controversial topic. Your comments have been forwarded to the appropriate park staff involved in this visitor center planning effort.

Comment: **The June 19 memo and the EA state that adjustments of a provisional Mexican spotted owl (MSO) protected activity center (PAC) have now resulted in the boundaries of the PAC being further away from the project. I would like to know the old boundary (map), the information that resulted in the change in the boundary, the rationale for the change, and the new boundary.**

Response: The Park Wildlife Program Manager called the Fish and Wildlife Service on 31 July 2003 regarding this request for additional information and clarification of the MSO PAC boundary change. The Park Wildlife Program Manager discussed this issue and indicated that the boundary change was due to updated locality information based on the most recent MSO field surveys and occurred well before the discussion of the Yavapai Observation Station rehabilitation project began. The U.S. Fish and Wildlife Service indicated their satisfaction with this boundary change and its rationale during this phone call.

Comment: **Upon refining further components related to the heating, ventilation and air conditioning (HVAC) system proposed for the building, the type of system to be used has been**

modified and needs to be reflected adequately in the Environmental Assessment and this Finding of No Significant Impact (FONSI).

Response: This change has been documented on page 3 of the FONSI, in the seventh bullet under the description of the components of interior rehabilitation. This change has also been made on page 18 of the June 2003 Environmental Assessment in the seventh bullet under the description of the components of interior rehabilitation. The phrase "Removal of abandoned ducts and vents and installation of a new mechanical heating and cooling system. Removal of existing radiant heaters on the vigas. The heating/cooling system will be roof-mounted with ducts providing forced air into the interior spaces using the existing soffitts and interior walls. Exhaust fans will use existing roof penetrations" has been modified to read as follows:

- *Removal of abandoned ducts and vents and installation of a new mechanical equipment system. The heating/cooling system will be a roof-mounted split system with fan coils within the interior spaces attached to the existing soffitts and interior walls. Some radiant heaters will be retained. Exhaust fans will use existing roof penetrations. Removal of the airlock glazing between the entry vestibule and the observation deck.*